PART 2

LM3-EUTRO

Appendix 2.4.1. Modeled Versus Measured Variables

Not all model output variables could be directly compared to the field measurements. In order to compare these model variables to the field data, the following calculations were performed:

Total Phosphorus

$$TP = LOP + ROP + DOP + SRP + APCP\,(DIA + GRE + ZOO) \quad \text{(A2.4.1.1)}$$

where

Field measurements (expressed as mass/volume)

TP = total phosphorus

SRP = soluble reactive phosphorus (also a model output variable)

Model output variables (expressed as mass/volume)

LOP = labile particulate organic phosphorus

ROP = refractory particulate organic phosphorus

DOP = dissolved organic phosphorus

DIA = diatoms (expressed as carbon)

GRE = non-diatoms (expressed as carbon)

ZOO = zooplankton (expressed as carbon)

APCP = phosphorus to carbon ratio (a constant value of 0.01)

Dissolved Phosphorus

$$DP = DOP + SRP \quad \text{(A2.4.1.2)}$$

where

DP = dissolved phosphorus (expressed as mass/volume)(field measurement)

Total Kjeldahl Nitrogen

$$TKN = LON + RON + DON + NH_3 + ANCP\,(DIA + GRE + ZOO) \quad \text{(A2.4.1.3)}$$

where

Field measurements (expressed as mass/volume)

TKN = total Kjeldahl nitrogen

NH_3 = ammonia (also a model output variable)

Model output variables (expressed as mass/volume)

LON = labile particulate organic nitrogen

RON = refractory particulate organic nitrogen

DON = dissolved organic nitrogen

ANCP = nitrogen-to-carbon ratio (a constant value of 0.25)

Particulate Organic Carbon

$$POC = LOC + ROC + DIA + GRE + ZOO \quad \text{(A2.4.1.4)}$$

where

Field measurements (expressed in mass/volume)

POC = particulate organic carbon

Model output variables (expressed as mass/volume)

LOC = labile particulate organic carbon

ROC = refractory particulate organic carbon

Total Algal Carbon

$$Total\ algal\ carbon = DIA + GRE \quad \text{(A2.4.1.5)}$$

Total algal carbon was neither a field nor a model variable. It was a summed total of the diatoms and greens (performed for both the field and model output).